

CLAIMS

1. A method comprising

automatically performing measurements of responses of a subject, the
measurements comprising a sufficient set of measurements to
5 complete a psychological evaluation task or to derive a complete
conclusion about a cognitive state, an emotional state, or a socio-
emotional state of the subject, and

automatically completing the task or deriving the complete conclusion
based on the measurements of responses.
- 10 2. The method of claim 1 in which the measurements are made using
electronic devices.
3. The method of claim 2 in which the electronic devices include video
and audio devices.
4. The method of claim 1 also including automatically using pre-stored
15 information to derive the complete conclusion about the cognitive
state, emotional state, or socio-emotional state based on the set of
measurements.
5. The method of claim 1 also including automatically inferring an ability
of the subject to carry out a function, based on the complete
20 conclusion of the cognitive state, the emotional state, or the socio-
emotional state.
6. The method of claim 1 in which the responses comprise responses to
predetermined stimuli.

7. The method of claim 1 in which the stimuli are automatically controlled.
8. The method of claim 7 in which the stimuli are provided automatically.
- 5 9. The method of claim 7 in which the stimuli comprise displayed still images or video segments.
10. The method of claim 7 in which the stimuli comprise sounds.
11. The method of claim 1 in which the measurements of responses comprises measurements of responses within a context involving subject participation or human-human interaction.
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12. The method of claim 11 in which the measurements of responses include measurements of responses of the subject and of other subjects involved in the subject participation or human-human interaction.
13. The method of claim 11 in which the context comprises the subject viewing video in a context involving subject participation or human-human interaction.
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14. The method of claim 1 in which the subject comprises a group of humans.
15. The method of claim 14 in which a conclusion is derived about the level or the quality of coordination in the group.
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16. The method of claim 14 in which a conclusion is derived about the level or the quality of the communication in the group.

17. The method of claim 14 in which a conclusion is derived about the level or the quality of the cooperation in the group.
18. The method of claim 14 in which a conclusion is derived on the cognitive, emotional, or socio-emotional state of a person relative to the rest of the group.
19. A method comprising
- automatically performing measurements of responses of a subject, the measurements being performed over a period of time having a pre-determined length, and
- automatically determining a cognitive state, an emotional state, or a socio-emotional state of the subject based on the measurements and on the length of the pre-determined period of time.
20. The method of claim 19 in which the measurements are also performed over a second period of time.
21. The method of claim 20 in which the determination of state includes an analysis of the difference of the measurements between the period of time and the second period of time.
22. The method of claim 20 in which the first period of time and the second period of time are of different scales.
23. The method of claim 22 in which the different scales comprise at least two of seconds, minutes, hours, days, weeks, months, or years.
24. The method of claim 19 in which the measurements are also performed to determine a second state.

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25. The method of claim 24 in which the first state and the second state are of different time scales.
26. The method of claim 25 in which the states of different time scales comprise at least two of emotions, moods, or temperaments.
- 5 27. The method of claim 19 in which at least one measurement and at least one determined state are of different time scales.
28. A method comprising
- automatically performing measurements of responses of a subject, and
- automatically deriving from the measurements, a complete conclusion
- 10 about a cognitive state, an emotional state, or a socio-emotional state of the subject,
- at least one of the measurements and the conclusions being based on a demographic characteristic of the subject.
29. The method of claim 28 in which the demographic characteristic
- 15 comprises at least one of race, gender, age, religion, culture, language, beliefs and values, education, income level, and marital status.
30. The method of claim 29 in which the measurements are performed in a context that is selected to enhance a purity or intensity of the responses, the context being selected based on the demographic
- 20 characteristic.
31. The method of claim 29 in which the conclusion derived from the measurements is based on the demographic characteristic.

32. The method of claim 29 also including storing an association, based on the demographic characteristic, between the representations of measurements of responses and corresponding representations of the conclusion about a state.
- 5 33. A method comprising
- automatically performing measurements of responses of a subject, and
- automatically deriving from the measurements, a complete conclusion about a cognitive state, an emotional state, or a socio-emotional state of the subject,
- 10 at least one of the measurements being quantified, and the conclusion derived from the measurements being quantified.
34. The method of claim 33 also including storing an association between the quantitative representations of measurements of responses and corresponding quantitative representations of the conclusion about a
- 15 state.
35. The method of claim 34 in which the quantitative representation comprises an indicator of an intensity of the state.
36. The method of claim 33 in which the accuracy or the variability of the conclusion about a state also being quantified.
- 20 37. The method of claim 36 also including storing an association between the accuracy and the variability of representations of measurements of responses and the corresponding accuracy and variability of representations of the conclusion about a state.

38. A machine-based method comprising
- instructing a subject to observe a performance of a multimedia work,
- performing the multimedia work to induce in the subject an emotional,
- a socio-emotional, or a cognitive state,
- 5 recording responses of the subject in two different modes of
- expression that are associated with the state,
- analyzing the recording to measure the responses of the subject in the
- two different modes of expression,
- integrating the responses in the two different modes of expression,
- 10 interpreting the results of the integration to provide a psychological
- evaluation of the subject, and
- presenting the evaluation results.
39. The method of claim 38 in which the responses comprise changes in
- the subject's face.
- 15 40. The method of claim 38 in which the responses comprise changes in
- the subject's voice.
41. The method of claim 38 in which the responses comprise changes in
- the subject's posture.
42. The method of claim 38 in which the responses comprise changes in
- 20 the content of a subject's speech.

- 43. The method of claim 38 in which the responses comprise changes in the content of a subject's writings.
- 44. The method of claim 38 in which the responses are also recorded before or after the performance of the multimedia work.
- 5 45. The method of claim 38 in which the interpreting takes account of delays between responses in different modes of expression.
- 46. The method of claim 38 in which the interpreting takes account of differing weights of contributions of responses in different modes of expression to determine a state.
- 10 47. The method of claim 38 in which interpreting includes comparison of the integrated responses to a norm.
- 48. The method of claim 38 in which the evaluation results are presented as a printout to a professional or to the subject.